the case in southern Arizona; where the protracted heat and drought of a long summer, which encroaches on intermediate seasons, disturbs the regularity of migration; or even entirely takes away from some species the migratory impulse."

The habits of a genus of woodpeckers are thus described:—

"The genus in question is a xylophagous rather than an insectivorous one. I do not mean that the *Sphyrapici* never eat insects, for coleoptera and their larvæ may often be found in their stomachs. But their main sustenance is the cambrium, or soft, inner, *live* bark of trees, the succulent juices of which they appropriate to their economy, rejecting the ligneous, unnutritious fibres in the ordinary method. They are, in fact, true "Sap-suckers," and it is their devastations upon fruit and ornamental trees which have brought the family of woodpeckers into such disrepute among agriculturalists; a class not ordinarily observant enough to discriminate between these birds and the harmless or rather beneficial species of *Picus*, *Melanerpes*, *Centurus*, etc. Instead of simply "tapping" trees, —generally their decayed or dead portions too,—to extract the injurious beetles and their larvæ working within, the Sphyrapicines denude live branches of their bark, often for an area of several square inches at a time. I have before me specimens of wood thus attacked, from which the bark has been removed from large irregularly shaped spaces; and the result, as might be expected, is exceedingly different from that produced from the simple drilling of little holes by the insectivorous genera. Besides the cambrium, all the species, particularly in the fall, feed extensively upon ripe fruits and berries of all sorts."

The occurrence of hybrids between closely allied species of animals is now well known sometimes to occur. The author thus speaks of a hybrid between two species of Junco, the Snow-bird:—

"I have thus gone somewhat into detail regarding the characters of *J. oregonus* and *caniceps*, because in my collection are several examples which I regard as most undoubtedly hybrids between the two. Their general aspect is that of *caniceps;* the head, neck, and throat being slate gray, not black; the lores decidedly blackish, etc. There is a large dorsal area, colored as in *oregonus*, and, most marked feature of all, the sides are strongly tinged with pinkish fulvous, exactly as in *oregonus*, instead of being plain cinereous gray, concolorous with the throat, as in *caniceps*. Other specimens preponderate still more towards *oregonus*, in having the head and neck rather slate black than slate gray.

"The specimens are such palpable hybrids, that they need not in the least invalidate the specific distinctions between the two species. In the case of *Colaptes auratus* and *mexicanus*, it has been proven incontrovertibly, that such a thing is entirely possible between closely allied though quite distinct species."

The Wild Turkey was found to be "a permanent resident of the mountains of the immediate vicinity of Whipple, but quite rare, so much so that I procured no specimens. In some portions of the Southern Rocky Mountains region, it is exceedingly numerous."

NATURAL HISTORY MISCELLANY.

BOTANY.

THE LOTUS.—All the tribes of the White Nile have their harvest of the Lotus seed. There are two species of water lily—the large white flower, and the small variety. The seed-pod of the white lotus is like an unblown artichoke, containing a number of light-red grains equal in size to mustard-seed, but shaped like those of the poppy, and

similar to them in flavor, being sweet and nutty. The ripe pods are collected and strung upon sharp-pointed reeds about four feet in length. When thus threaded they are formed into large bundles, and carried from the river to the villages, where they are dried in the sun, and stored for use. The seed is ground into flour, and made into a kind of porridge. — *Baker's Albert Nyanza.*

ZOÖLOGY.

ARTIFICIAL NESTS OF INSECTIVOROUS BIRDS IN SWITZERLAND. — It is evident that the agriculturist must mainly rely on the insectivorous birds to guard against the attacks of injurious insects. The subject has attracted much attention in Europe. For twenty-five years, M. Auguste Burnat has domesticated in artificial nests, numerous species of birds which have effectually stopped the ravages of insects. Such nests, made of various forms and of different materials to suit their occupants, were placed in the trees in gardens, orchards, and in public promenades and parks. The birds most easily raised were the sparrows, etc. (*Fringilla*, *Sylvia*, *Certhia*), the nuthatches (*Sitta*), and the woodpeckers, which last are very serviceable, as are the martins and swallows. The starling has been raised in great numbers, being more easily multiplied than any other bird.

"During the years 1852 to 1857, the Inspector-General of Forests, M. Dietrich, at Grunheim, in Saxony, reported that two species of Beetles, the *Hylobius abietis* and *ater* [allied to our Pine Weevils], had ravaged to a great extent the firs of his district. During this time there were spent in destroying these insects over four thousand francs, but in spite of every effort the evil still existed. It was then remedied by the Starlings. The inspector placed one hundred and twenty-one artificial nests in the neighborhood of the plantation of pines (*epiceas*). The success was complete. At the end of May, in examining some young Starlings scarcely able to fly, their stomachs were found filled with Weevils, whose "snouts" had been, previously to their being swallowed, broken off by the parent birds. If the Starlings sometime feed on plumbs and grapes, they can be easily frightened off. There are few regions where so much fruit is produced as in the principality of Alenbourg; we may attribute the cause, in part, to the artificial nests established for the Starling. It is the same in Holstein and in Lombardy, where they take the same care in multiplying the Owls." — *Bulletin de la Societe d'Acclimatation.*

We learn that two hundred English Sparrows were last year domesticated in Union Park, in New York city, and that they completely destroyed the Canker-worms infesting the shade trees. Forty pairs have just been imported into New Haven. The English Sparrow also feeds very largely on grain, and may prove troublesome to farmers.

The attention of the Boston Society of Natural History has been called to the thieving propensities of this bird. "At a meeting of this Society, held April 18th, Dr. Charles Pickering called attention to the recent introduction of the House sparrow of Europe into this country. As it threatens great evil, preventive measures should be